

REMARKS/ARGUMENTS

Reconsideration of the above-identified application in view of the present amendment is respectfully requested. By the present amendment, claims 11-13 have been added.

Claim Rejections under 35 U.S.C. §102

Claims 1-2 and 5-8 were rejected under 35 U.S.C. §102(b) as being anticipated by European Patent Publication No. EP 0631923 to Willibald (hereafter "Willibald"). That rejection is respectfully traversed.

Claim 1 recites a plug for sealing holes in a vehicle body that includes a central closure section and an engaging section. The closure section and the engaging section are made of plastics material. The plastics material of the engaging section is adapted to be softened by heating such that a tight connection is produced between the engaging section and the portions of the vehicle body that are received by it. The engaging section has a surrounding sealing lip which forms a latching connection with an edge of the hole in the vehicle body. The engaging section includes a further sealing lip that engages the opposite side of the edge of the hole in the vehicle body. The engaging section is inserted in a deepening on the rim side of the closure section.

Willibald does not teach or suggest an engaging section that is inserted into a deepening on a rim side of a closure section. The Examiner asserts that the nuclear component 10 and the bowl component 20 of Willibald constitute the closure section and the engaging section, respectively, of the present invention. In Figs. 1-2, the bowl component 20 surrounds and completely covers the outer surface of the

nuclear component 10. In Figs. 3-4, the bowl component 20 partially encloses the outer surface of the nuclear component 10. In either case, since the bowl component 20 surrounds the nuclear component 10, it cannot be said that the bowl component is inserted into the nuclear component.

In any case, the nuclear component 10 and the bowl component 20 are formed by a two-component spraying procedure (see Babel Translation page 1). Since the two components are integrally formed together, neither component 10, 20 is inserted into the other component. Accordingly, Willibald does not teach or suggest an engaging section that is inserted into a deepening on a rim side of a closure section.

The embodiments in Figs. 3-4 of Willibald also do not teach or suggest an engaging section that includes both a surrounding sealing lip and a further sealing lip that engage opposite sides of the edge of a hole. In particular, the sealing rim 4 forms only a single sealing surface which engages the top edge of the hole. In Fig. 3, the adjacent stop ring 6 is not formed as a sealing element since the softer sealing material of the bowl component 20 is absent – all that is present is the exposed, harder surface of the nuclear component 10. In Fig. 4, there is no sealing element whatsoever adjacent to the sealing rim. Rather, a plurality of individual, radially arranged interference elements 32 are dispersed around the wall 30. The softer sealing material of the bowl component 20 clearly does not extend downwards and over the interference elements 32. Furthermore, in Figs. 3-4 the edges of the holes into which the cap 1 is placed are not received in the soft material of the bowl component 20, but instead engage the harder nuclear component 10.

In the present invention, since the engaging section is inserted in a deepening on the rim side of the closure section, the engaging section is situated substantially completely in the deepening on the rim side of the closure section. The function of the closure section and of the engaging section for a vehicle body plug is readily apparent from the materials used. In particular, the closure section constitutes the dimensionally stable component made from a harder plastic material – it is intended to close the vehicle body hole and to support a reliable connection in the region of the rim of the hole in the vehicle body.

On the other hand, the engaging section that is made from a softer plastic material is provided to seal between the vehicle body plug and the rim of the hole in the vehicle body. This particular plug construction ensures that the sealing effect is present in case the plug is inserted into the hole prior or subsequent to the vehicle body passing through a paint drying plant. To prevent corrosion on the sharp-edged, especially susceptible punched edges in the vehicle body sheet, it is particularly advantageous if the engaging section of the plug seals on both sides of the vehicle body sheet to protect the rim of the hole in the vehicle body in this way.

The present invention is therefore constructed such that it closes the vehicle body hole and reliably protects the rim of the vehicle body hole during installation both before and also after paint drying. The plug of the present invention has the advantage that the soft material of the engaging section is provided only at those places where the properties thereof can be usefully employed, namely, in the region of the rim of the vehicle body hole. In this rim region a latching connection is formed between the vehicle body plug and the rim of the hole in the sheet metal with the aid

of the dimensionally stable closure section, and with the engaging section engaging both sides of the vehicle body sheet by means of sealing lips. The vehicle body hole is thereby reliably closed and the rim of the vehicle body hole is protected by a surrounding double seal. When the vehicle body plug is heated after installation, e.g., in a paint drying plant, softening of the engaging section takes place and, as a consequence, the sealing lips are adhesively connected with the rim of the hole in the vehicle body to further enhance the seal.

In contrast, in the plug in Figs. 1-2 of Willibald the complete dimensionally stable nuclear component 10 of the cap 1 is completely coated with a material that can be softened, so that large portions of the material of the bowl component 20 are employed unnecessarily. If the cap 1 of Willibald was passed through a paint drying plant or otherwise exposed to heat the entire outer surface of the cap would be softened due to the presence of the bowl component 20, thereby reducing the sealing performance of the cap. For instance, and especially when the cap 1 is installed in an inclined or vertical position, the soft material of the bowl component 20 will tend to form streaks or smears or, depending on the viscosity, even drip down off of the nuclear component 10. This will produce at least a visually unappealing product, but may also detract from the functionality of the cap 1 due to the compromised sealing effect of the bowl component 20 on the surrounding structure. Additionally, the caps 1 are not adapted to achieve a sealing effect with the surrounding structure without heating the material. Rather, a melting and adhesive bonding of the sealing rim 4 to the surrounding structure is required (see Babel Translation page 2).

In the embodiments of Figs. 3-4 of Willibald, only the ends of the flange 5 of the nuclear component 10 are molded with and thereby covered by the soft bowl component 20. The bowl component 20 on the upper side (as viewed in Fig. 3) of the flange 5, however, serves no purpose. Moreover, the softer, sealing bowl component 20 is omitted in the region of the latching stop ring 6, which engages the structure surrounding the hole. The harder uncoated stop ring 6 does not provide an adequate sealing effect, thereby leaving the rim of the hole unprotected and, thus, susceptible to corrosion. Accordingly, none of the embodiments of Willibald are designed to arrange the sealing material of the cap 1 in such a way that the rim of the hole into which the cap is inserted is reliably protected whether the cap is installed before or after the passage of the surrounding structure through a paint drying plant or otherwise exposed to heat.

For these reasons, it is respectfully submitted that claim 1 is patentable over Willibald and is therefore allowable.

Claims 2 and 5-7 depend from claim 1 and are allowable for at least the same reasons as claim 1 and for the specific limitations recited therein.

Claim 8 recites a plug for sealing holes in a vehicle body that includes a central closure section and an engaging section. The closure section and the engaging section are made of plastics material. The plastics material of the engaging section is adapted to be softened by heating such that a tight connection is produced between the engaging section and the portions of the vehicle body that are received by it. The engaging section has a surrounding sealing lip which forms a latching connection with an edge of the hole in the vehicle body. The engaging

section includes a further sealing lip that engages the opposite side of the edge of the hole in the vehicle body. The engaging section is inserted in a deepening on the rim side of the closure section. The closure section is formed so as to have a hollow cylindrical shape with a closed end and an open end. The open end is bent outwards toward the closed end, forming the deepening on the rim side. The engaging section has two side surfaces located opposite each other. The first side surface lies against the outer surface of the hollow cylindrical closure section and the second, opposite side surface reaches beyond the rim of the closure section.

As noted, Willibald does not teach or suggest an engaging section that is inserted into a deepening on a rim side of a closure section. For these reasons, it is respectfully submitted that claim 8 is patentable over Willibald and is therefore allowable.

Claim Rejections under 35 U.S.C. §103

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Willibald. Claim 4 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Willibald in view of U.S. Patent No. 4,588,105 to Schmitz et al. Claim 4 depends from claim 1 and is allowable for at least the same reasons as claim 1 and for the specific limitations recited therein.

New Claims

Claim 11 recites that the deepening has a U-shaped cross-section, the engaging section engaging only the deepening of the closure section. Claim 13 recites that the closure section has a closed end and an open end. The open end is free of the engaging section when the engaging section is inserted into the

deepening. Claims 11 and 13 depend from claim 1 and are allowable for at least the same reasons as claim 1 and for the specific limitations recited therein.

Claim 12 recites that the closure section is formed so as to have a hollow cylindrical shape with a closed axial end and an open axial end. The engaging section is positioned entirely between the closed end and the open end. In every embodiment of Willibald, the bowl component 20 extends axially beyond and radially outward of the flanges 5 on the nuclear component 10. Therefore, the bowl component 20 cannot be positioned entirely between any two ends of the nuclear component 10. Accordingly, it is respectfully submitted that claim 12 is patentable over Willibald and is therefore allowable.

In view of the foregoing, it is respectfully submitted that the application is allowable and allowance of the application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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